

REMARKS

Claims 1, 2, 4, 6, 8-12, 16, 17, 19-22, 25-30 and 36-38 remain pending in the present application. Claims 3, 5, 7, 13, 14, 15, 18, 23, 24, 31 and 32 have been cancelled. Claims 1, 4, 6, 8, 9, 16, 19, 22, 25 and 27 have been amended. Claims 36-38 are new. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed.

REJECTION UNDER 35 U.S.C. § 112

Claims 31-32 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The limitations of Claim 31 have been amended to overcome the rejection prior to incorporating these limitations in Claim 1 and new Claim 37. Reconsideration of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-6, 28, 30 and 33-35 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cao, et al. (U.S. Pat. No. 6,684,941). Applicants respectfully traverse this rejection. Claim 1 has been amended to include the limitations of Claims 5, 18, 23, 31 and 32. Claims 8, 23, 31 and 32 were not rejected under 35 U.S.C. § 102 using Cao, et al.

Thus, Applicants believe Claim 1, as amended, patentably distinguishes over the art of record. Likewise, Claims 2, 4, 6, 28, 30 and 33-35, which ultimately depend from

Claim 1, are also believed to patentably distinguish over the art of record. Claims 3 and 5 have been cancelled. Reconsideration of the rejection is respectfully requested.

Claims 1-8 and 30-32 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shimado Koji (JP 404027773A). Applicants respectfully traverse this rejection. Claim 1 has been amended to include the limitations of Claims 5, 18, 23, 31 and 32. Claims 18 and 23 were not rejected under 35 U.S.C. § 102 using Koji.

Thus, Applicants believe Claim 1, as amended, patentably distinguishes over the art of record. Likewise, Claims 2, 4, 6, 8 and 30, which ultimately depend from Claim 1, are also believed to patentably distinguish over the art of record. Claims 3, 5, 7, 31 and 32 have been cancelled. Reconsideration of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 8 and 16-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cao in view of Farkos (U.S. Pat. No. 3,791,770). Claims 1-8, 16-17, 26, 28, 30, and 33-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Delong (U.S. Pat. No. 4,692,673) in view of Cao (U.S. Pat. No. 6,684,941). Claims 18-21 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Delong and Cao as applied to Claims 1-8 and 16-17 above, and further in view of either Ikunori, et al. (JP 11-155273) or Yamamoto Yasuchi (JP 2002-257232). Applicants respectfully traverse this rejection. Claim 1 has been amended to include the limitations of Claims 5, 18, 23, 31 and 32.

According to the present invention, a spiral groove turning on the side of the moving piece in the sliding direction is formed on a surface of the moving piece from both end portions of the moving piece in the sliding direction to the central portion.

Due to the above constitution, since the groove is formed in a spiral shape, when the moving piece is reciprocated, it rotates around the axis of the sliding direction due to fluid power. Therefore, abrasion powder resulting from sliding, can be effectively removed.

Moreover, since the moving piece rotates, the position of the sliding portion of the moving piece can change. As a result, since the sliding area increases, the durability of the fluid drive unit increases.

Claim 1, as amended, would require the combination of Delong (U.S. Pat. No. 4,692,673) in view of Cao (U.S. Pat. No. 6,684,941) for Claims 1 and 5; further in view of Ikunori, et al. (JP 11-155273) or Yamamoto (JP 2002-257232) for Claims 18 and 23; and Koji (JP 04-027773) for Claims 31 and 32.

Applicants believe there is no suggestion in these references to combine them to render Claim 1 of this application obvious. Claim 1 defines temporary magnets at both ends of a permanent magnet; a cylindrical body for accommodating the permanent magnet and spiral grooves turned on the side of the moving piece.

Thus, Applicants believe Claim 1, as amended, patentably distinguishes over the art of record. Likewise, Claims 2, 4, 6, 8, 16, 17, 19-21, 26, 28, 30 and 32-35, which ultimately depend from Claim 1, are also believed to patentably distinguish over the art of record. Claims 3, 5, 7, 18, 23, 31 and 32 have been cancelled.

REJOINDER

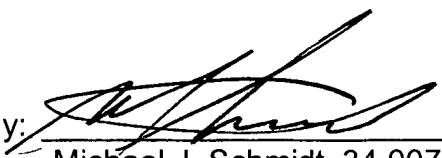
Applicants respectfully request the rejoinder of withdrawn Claims 9-12, 22, 25 and 29. Claims 13-15 and 24 have been cancelled.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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